

PATENT ABSTRACTS OF JAPAN

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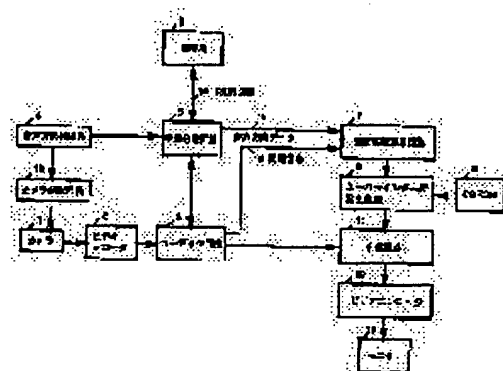
(54) VIDEO CONFERENCE SYSTEM WITH SPEAKER IDENTIFICATION DISPLAY FUNCTION

(57)Abstract:

PURPOSE: To easily identify a speaker by detecting the speaker by a speaking detection means, automatically moving a camera when the position is detected and attaching a mark for discriminating the speaker to a monitor even when plural participants perform a conference.

CONSTITUTION: When three participants, for instance, are present in an opposite station 6 and the conference is performed, when the participant present at the center of the monitor 13 speaks up, the direction is detected by the voice direction detection circuit 4 of the opposite station 6 and voice direction data 15 separated from the other data by using a multiplex/demultiplex circuit 5 are inputted to a screen coordinate computing circuit 7.

Then, appropriate coordinates for screen display are obtained based on the data 15 and character signals corresponding to a CGROM 9 are generated based on the coordinates and synchronizing signals 10. The character signals are superimposed on inputted codec picture signals in a synthesis circuit 11 and are outputted to the monitor 13 by a video encoder 12. Thereafter, the identification display mark of an inverted triangle painted out in black is superimposed at the upper part of the participant.



LEGAL STATUS

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CLAIMS

[Claim(s)]

[Claim 1] In the video conference system which has the speaker identification display capabilities for indicating the speaker in the participant by discernment while holding a conference by two or more participants When a busy detection means to detect whether you are the participant who has spoken at the meeting, and its busy detection means detect that he is a speaker The video conference system which has the speaker identification display capabilities characterized by consisting of a camera migration means to move a camera automatically to the speaker, and a mark grant means to give a mark which is understood to be a speaker when the speaker copies out on a monitor.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention moves a camera automatically to a speaker, while holding a conference by two or more participants, and it relates to the video conference system in which the speaker has the speaker identification display capabilities which can copy out on a monitor and can sometimes give a mark.

[0002]

[Description of the Prior Art] In the video conference system which has the conventional speaker identification display capabilities, while advancing the meeting, making coincidence display each participant on one monitor, in a multi-point video conference system, only a busy partner is made bright, as indicated by JP,5-68248,A, and the image of the partner except busy is made dark.

[0003]

[Problem(s) to be Solved by the Invention] However, if it was in the video conference system which has such conventional speaker identification display capabilities, at the time of a lot of people whom the participant who has participated in the meeting cannot display on one monitor at coincidence, it participated in the meeting, and even if it speaks, in order not to copy out on a monitor, a busy partner was not able to be copied to a monitor.

[0004] Thus, in the conventional video conference system, the number of the participant at a meeting had a limit.

[0005]

[Means for Solving the Problem] In the video conference system which this invention is for solving these technical problems, and has the speaker identification display capabilities for indicating the speaker in the participant by discernment while holding a conference by two or more participants When a busy detection means to detect whether you are the participant who has spoken at the meeting, and its busy detection means detect that he is a speaker The video conference system which has the speaker identification display capabilities which consist of a camera migration means to move a camera automatically to the speaker, and a mark grant means to give a mark which is understood to be a speaker when the speaker copies out on a monitor is offered.

[0006]

[Function] Even if this invention is a time of holding a conference by two or more participants in this way When a busy detection means detects the speaker who has spoken at the meeting and the speaker's location is detected, a camera moves automatically. Since it has composition which gives a mark which is understood to be the speaker when the speaker copies out on a monitor, the participant who has spoken at the meeting easily also by whom is discriminable. *mark*

[0007]

[Example] Hereafter, the example of this invention is explained using a drawing. Drawing 1 is the block diagram showing one example of the video conference system which has the speaker identification display capabilities of this invention, and drawing 2 thru/or drawing 4 are drawings showing the

example of a display used by the video conference system which has the speaker identification display capabilities of this invention.

[0008] In the video conference system which has the speaker identification display capabilities of drawing 1, 1 is a camera. The video decoder which 2 carries out A/D conversion of the video signal, and is decoded for digital one, The direction detector of voice which 3 captures an image, and a sign and the codec circuit to decrypt, and 4 capture a meeting person's voice, and detects the direction of voice, The screen coordinate arithmetic circuit where the demultiplexing circuit where 5 performs multiplexing and separation for the compression signal and the direction signal of voice of an image, and 6 search for a distant office, and 7 searches for the coordinate of a screen from the direction data 15 of voice, and 8 read a character pattern from CGROM9. The superimposition generating circuit which generates the signal which synchronized with the synchronizing signal 10, Carrying out D/A conversion of the synthetic circuit where 11 compounds the video signal from the codec circuit 3, and the video signal of the superimposition generating circuit 8, and 12, the video encoder which generates an analog video signal, and 13 consist of television monitors of NTSC system. While holding a conference by three meeting participants being in a distant office as explained below by drawing 2 which gives explanation of operation based on drawing 1 thru/or drawing 4 When the participant 21, who is in the center of a monitor speaks, the direction is detected by the direction detector of voice of a distant office, and other data and the separated direction data 15 of voice are inputted into the screen coordinate arithmetic circuit 7 through ISDN circuit 14 in the demultiplexing circuit 5. The suitable coordinate for screen display is searched for based on the direction data 15 of voice. The character signal according to CGROM9 is generated based on this coordinate and synchronizing signal 10. The inputted codec picture signal is made to superimpose a character signal, and it outputs to a monitor 13 from the video encoder 12 in the synthetic circuit 11. (Change on)

[0009] The mark 20 to which the discernment display of the reverse trigonum smeared away black is performed in the participant's 21 upper part like drawing 2 as an output screen superimposes. A meeting participant can specify a speaker easily by seeing this discernment display. | X

[0010] Drawing 3 shows the 2nd example of a display of an output screen. This example of a display shows that the pattern which can be superimposed, and a location are changeable by changing the parameter of a screen coordinate arithmetic circuit by changing the contents of CGROM9 of drawing 1 again.

[0011] Drawing 4 shows that a camera is moving toward the speaker, when the participant who has not copied out on the monitor speaks.

[0012]

[Effect of the Invention] As explained above, when a speaker's remark is detected while holding a conference by two or more participants, and the speaker's location is detected, a camera moves this invention automatically, and since it has composition which gives a mark which is understood to be the speaker when the speaker copies out on a monitor further, the participant who has spoken at the meeting easily also by whom is discriminable.

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TECHNICAL FIELD

[Industrial Application] This invention moves a camera automatically to a speaker, while holding a conference by two or more participants, and it relates to the video conference system in which the speaker has the speaker identification display capabilities which can copy out on a monitor and can sometimes give a mark.

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PRIOR ART

[Description of the Prior Art] In the video conference system which has the conventional speaker identification display capabilities, while advancing the meeting, making coincidence display each participant on one monitor, in a multi-point video conference system, only a busy partner is made bright, as indicated by JP,5-68248,A, and the image of the partner except busy is made dark.

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EFFECT OF THE INVENTION

[Effect of the Invention] As explained above, when a speaker's remark is detected while holding a conference by two or more participants, and the speaker's location is detected, a camera moves this invention automatically, and since it has composition which gives a mark which is understood to be the speaker when the speaker copies out on a monitor further, the participant who has spoken at the meeting easily also by whom is discriminable.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, if it was in the video conference system which has such conventional speaker identification display capabilities, at the time of a lot of people whom the participant who has participated in the meeting cannot display on one monitor at coincidence, it participated in the meeting, and even if it speaks, in order not to copy out on a monitor, a busy partner was not able to be copied to a monitor.

[0004] Thus, in the conventional video conference system, the number of the participant at a meeting had a limit.

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MEANS

[Means for Solving the Problem] This invention is a video conference system which is for solving these technical problems characterized by providing the following in a video conference system, and has the speaker identification display capabilities for indicating the speaker in the participant by discernment while holding a conference by two or more participants. A busy detection means to detect whether you are the participant who has spoken at the meeting A camera migration means to move a camera automatically to the speaker when the busy detection means detects that he is a speaker The speaker identification display function which consists of mark grant means to give a mark which is understood to be a speaker when the speaker copies out on a monitor

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OPERATION

[Function] Even if this invention is a time of holding a conference by two or more participants in this way, When a busy detection means detects the speaker who has spoken at the meeting and the speaker's location is detected, a camera moves automatically, and since it has composition which gives a mark which is understood to be the speaker when the speaker copies out on a monitor, the participant who has spoken at the meeting easily also by whom is discriminable.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing one example of the video conference system which has the speaker identification display capabilities of this invention.

[Drawing 2] It is drawing showing the 1st example of a display used by the video conference system which has the speaker identification display capabilities of this invention.

[Drawing 3] It is drawing showing the 2nd example of a display used by the video conference system which has the speaker identification display capabilities of this invention.

[Drawing 4] It is drawing showing the 3rd example of a display used by the video conference system which has the speaker identification display capabilities of this invention.

[Description of Notations]

- 1 Camera
- 2 Video Decoder
- 3 Codec Circuit
- 4 The Direction Detector of Voice
- 5 Demultiplexing Circuit
- 6 Distant Office
- 7 Screen Coordinate Arithmetic Circuit
- 8 Superimposition Generating Circuit
- 9 CGROM
- 10 Synchronizing Signal
- 11 Synthetic Circuit
- 12 Video Encoder
- 13 Monitor
- 14 ISDN Circuit
- 15 The Direction Data of Voice
- 16 Camera Control Circuit
- 20 Example 1 of Mark
- 21 Speaker 1
- 22 Example 2 of Mark
- 23 Speaker 2
- 24 Example 3 of Mark

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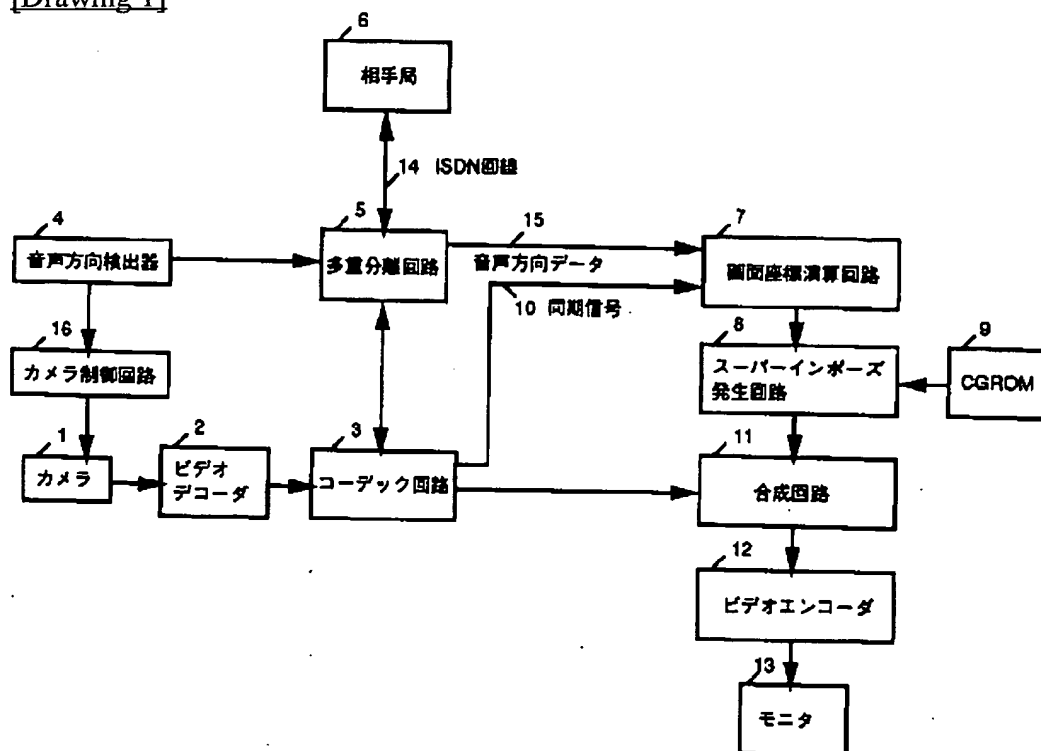
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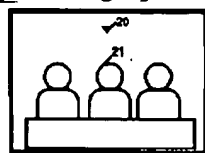
DRAWINGS

[Drawing 1]

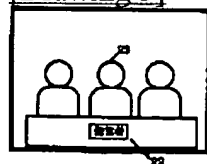


1: Camera
 5: Mux
 3: Codec
 8: Superimpose gen. circuit
 12: Encoder
 13: Monitor

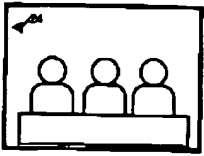
[Drawing 2]



[Drawing 3]



[Drawing 4]



[Translation done.]